



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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Applicants: Silvestro et al.
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Examiner: Flemming Saether
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Title: Fastener for Use in Securing Side Rails to Round Hole and Square Hole Mounting Rails of Cabinet Racks

CERTIFICATE OF MAILING

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APPEAL BRIEF

In response to the final Office Action dated March 2, 2005, and in support of the Notice of Appeal filed on June 3, 2005, applicants hereby submit this Appeal Brief. Accompanying this Appeal Brief is a Petition for a two-month Extension of Time under 37 CFR 41.37(e) to extend the time for filing the Appeal Brief up to and including October 3, 2005. Also enclosed is a check in the amount of \$450.00 to cover the two-month extension fee and a second check in the amount of \$500.00 to cover the fee for filing the Appeal Brief under 37 CFR 41.20(b)(2). Please apply any extension fees or credits due in this case and not covered by the enclosed checks to Deposit Account 50-2295.

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REAL PARTY IN INTEREST

The Real Party in Interest is EMC Corporation, the owner of all rights of this patent application by virtue of an assignment, recorded at reel and frame number 015161/0967.

RELATED APPEALS AND INTERFERENCES

None.

STATUS OF CLAIMS

As originally filed, the patent application included Claims 1-10. During prosecution, the applicants added new claims 11-16. A final Office Action mailed March 2, 2005 rejects all claims 1-16. An after-final amendment, dated July 26, 2005, cancels claims 3-8 and 10-16 in order to reduce the issues before appeal. Accordingly, independent claims 1, 2, and 9 remain pending in the application and are the subject of this appeal.

STATUS OF AMENDMENTS

Applicants filed an amendment on July 26, 2005, after the final rejection and before the submission of this Appeal Brief. The applicants' amendment cancels claims 3-8 and 10-16 and rewrites dependent claims 2 and 9 in independent form. On August 8, 2005, the United States Patent Office indicated in an Advisory Action that the amendment had been entered.

SUMMARY OF CLAIMED SUBJECT MATTER

Applicants' invention, as recited in independent claim 1, features a fastener (2) comprising a shank (18) having a threaded portion, a head portion (4), and a stepped portion (20) between the head portion and the threaded portion. See FIGs. 1B-1C and paragraph 17 on page 4 of the specification. The stepped portion has a diameter that is larger than the diameter of a round hole (38) in a first type of mounting rail (30') and smaller than a length of a side of a square hole (34) in a second type of mounting rail (30). See FIGs. 3A and 3B and paragraphs 21-22 on page 6 of the specification. When the fastener is inserted into one of the round holes of the first type of mounting rail, a bottom surface (24) of the stepped portion is urged against a front surface of the first type of mounting rail. See FIGs. 1C and 3B and paragraph 22 on page 6

of the specification. When the fastener is inserted into one of the square holes of the second type of mounting rail, the stepped portion enters closely into the square hole and the planar bottom surface (14) of the head portion is urged against a front surface of the second type of mounting rail. See FIG. 2B and paragraph 19 on page 5 of the specification.

Applicants' independent claim 2, as amended by the applicants' July 26, 2005 amendment, includes all of the elements and limitations recited in claim 1, and further recites that the stepped portion (20) is circular in shape. See FIGs. 1B-1C and paragraph 18 on page 5 of the specification.

Applicants' independent claim 9, as amended by the applicants' July 26, 2005 amendment, recites a fastener (2) having a shank (18) with a threaded portion, a head portion (4) having a diameter, and a circular stepped portion (20) between the head portion and the threaded portion. See FIGs. 1B and 1C, and paragraph 18 on page 5 of the specification. The stepped portion has a planar bottom surface (24) that is perpendicular to the shank and has a smaller diameter than the diameter of the head portion. See FIGs. 1B and 1C, and paragraph 18 on page 5 of the specification. The smaller diameter ranges between approximately 0.355 inches to approximately 0.365 inches so that the circular stepped portion is small enough to enter a square-hole of a Universal Mounting Rail and too large to enter a round hole of an Electronics Industry Association Standard mounting rail. See paragraph 19 on page 5 of the specification.

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

The final Office Action issued the following rejections:

- I. Claims 14-16 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failure to particularly point out and distinctly claim the subject matter which the applicants deems to be the invention.

- II. Claims 1-5, 7, 9, 10, 12, and 14-16 are rejected under 35 U.S.C. § 103(a) as being unpatentable over applicants' admitted prior art (APA) in view of United States Patent No. 6,746,193 (Drake).

- III. Claims 6 and 11 are rejected under 35 U.S.C. § 103(a) as being unpatentable over APA in view of Drake, and further in view of United States Patent No. 6,254,326 (Palm).
- IV. Claims 8 and 13 are under 35 U.S.C. § 103(a) as being unpatentable over the modified APA and as applied to claims 1 and 9, and further in view of United States Patent No. 5, 358, 368 (Conlan).

In view of the cancellation of claims 3-8 and 10-16 by the applicants' July 26, 2005 amendment, applicants submit that the rejections based on grounds I, III, and IV are moot. Accordingly, the grounds of rejection to be reviewed on appeal are grounds II, as applied to claims 1, 2, and 9.

ARGUMENT

Rejection under 35 U.S.C. § 103(a) over Admitted Prior Art (APA) in view of U.S. Patent No. 6,746,193

The final office action rejects Claims 1, 2 and 9 under 35 U.S.C. § 103(a) as being unpatentable over applicants' admitted prior art (APA) in view of United States Patent No. 6,746,193 (hereafter, "Drake"). Drake discloses a clip assembly for use with round-type and square-type mounting rails. The clip assembly is a nut assembly for receiving and securing a bolt to a mounting rail of either type. The nut assembly has a locating surface (110) that is sized to fit within a square hole of the square-type mounting rails, but not within a round hole of a round-type mounting rail. The locating surface has a threaded opening extending therethrough. The bolt enters this threaded opening from the opposite side of the mounting rail and tightens against the mounting rail as the bolt turns within the locating surface.

Claim 1

By issuing a 35 U.S.C. 103(a) rejection, instead of a 35 U.S.C. 102 rejection, the Examiner implicitly concedes that the applicants' fastener indeed has a novel structure; that is, no screw or bolt anticipates the applicants' claimed fastener. This is indicative of the uniqueness of the applicants' invention. Notwithstanding, Drake discloses a clip assembly with a locating surface that bears similarity to the applicants' stepped portion in that both Drake's locating surface and the applicants' stepped portion enter a square hole, but not into a round hole. The Examiner selects this particular feature of the clip assembly, and no other, to modify a screw mentioned generally in the applicant's background to argue that the applicants' invention is obvious. However, the applicants' background does not admit to the use of a single type of screw for both square-hole and round-hole types of mounting rails. Page 2 of the final Office Action acknowledges as much by stating, "... separate screws would be required for each type of mounting." The proposed modification of an APA screw using the teachings of Drake, as set forth by the Examiner, fails to indicate which type of screw is to be modified. Applicants respectfully submit that the relative ease in understanding the applicants' invention is being used to fill in the gaps, and that this simplicity is being confused with obviousness.

Admittedly, the applicants with their fastener and Drake with its clip assembly are trying to solve the same problem of wastefulness associated with supplying two different types of hardware with rack-mounted equipment in order to accommodate either possibility of a round-hole or a square-hole type of mounting rail. Faced with the same problem, the parties devised different solutions from opposite sides of the mounting rail: the applicants devised a bolt that enters a mounting rail opening through the front surface of the mounting rail, whereas Drake invented a nut assembly that mounts to the edge of the mounting rail and resides, primarily, on the back surface of the mounting rail.

The applicants' solution is the more advantageous. For instance, some types of side rails (which are attached to the mounting rails) have threaded openings for mounting purposes, thus foregoing the need for nuts. The applicants' bolt is thus sufficient to secure such side rails directly to either type of round-hole or square-hole mounting rail, i.e., without needing to use nuts. In contrast, Drake's nut assembly is superfluous for use with side rails having threaded openings, except to provide flexibility with respect to round-hole or square-hole racks. In applications where nuts are needed, the applicants' bolt cooperates with a standard nut and attaches to a mounting rail in a standard fashion. In contrast, Drake's clip assembly is structurally more complicated than a standard nut and requires precise mounting to the edge of a rail – Drake's nut assembly has a flange (112) for positioning the nut assembly within a round hole and for keeping the nut assembly from decoupling from the rail (See col. 2, lines 63-65 and col. 3, lines 15-17 of Drake). Moreover, when Drake's nut assembly is attached to a mounting rail, it prevents a side rail from sitting flush against the mounting rail. It is also susceptible to over tightening.

In view of the advantages and simplicity of the applicants' solution when compared to Drake's, if it were obvious to modify a bolt to incorporate Drake's locating surface, then why the absence of anticipating art – better still, why does not Drake, itself, recognize the solution devised by the applicants? Who is in a better position than Drake, being confronted by the same problem as the applicants and motivated enough to seek a solution that produced a novel nut assembly, yet did not disclose or suggest that the locating surface of the nut assembly could also be used to modify a bolt? The Examiner argues that the suggestion to make the modification does not need to be expressly made by the cited reference. The applicants' point, however, is not

simply that Drake fails to expressly suggest the modification, but that Drake, as a representative of one skilled in the art, possessed the feature (locating surface) that the Examiner believes renders the applicants' invention obvious, and was as well positioned as anyone in the art to suggest the modification – and yet does not. The applicants respectfully submit that Drake does not suggest the modification because the modification is not obvious to those of ordinary skill in the art.

Notwithstanding, the Examiner asserts that it is "common knowledge that nuts and bolts are interchangeable depending upon a particular application." That this interchangeability *depends upon a particular application* implies that there are applications for which interchangeability is not common knowledge. However, the Examiner does not provide any evidence that the applicants' invention is of a particular kind for which interchangeability would be common knowledge. To the contrary, the applicants' respectfully argue the very complexity of Drake's clip assembly, with its clip element (102), back portion (106), shoulder surface (108), and flange (112) obscures the very feature that the Examiner borrows from Drake to produce the applicants' bolt, and that Drake's lack of any express suggestion to make the modification is evidence of the applicants' invention being of a particular kind for which interchangeability between nuts and bolts is not common knowledge. Therefore, for these reasons, applicants respectfully submit that the applicants' invention is patentable over the APA in view of Drake.

Claims 2 and 9

Independent claim 2 recites all of the elements and limitations of claim 1, and is patentable over Drake for at least the reasons provided in connection with claim 1, which reasons are reiterated herein with full force and effect. Moreover, claim 2 recites that the stepped portion is *circular* in shape. The circular shape of the stepped portion permits the applicants' fastener to continue rotating when the fastener enters a square hole and is screwed into a nut or into a threaded opening on a mounting rail. Applicants submit that Drake does not teach or suggest all claimed features of the applicants' stepped portion: namely, Drake does not teach or suggest this circular shape. However, the Examiner's position is that it is enough that Drake teaches the concept of a locating surface that enters a square hole but not a round hole – in effect, rendering the shape of the stepped portion irrelevant. Nevertheless, this unfairly ignores the creative

contribution of the applicants in devising a bolt that can rotate and tighten when used with mounting rails having square holes.

To illustrate, Drake's locating surface is "designed to fit snugly into the square-hole configuration" and is "preferably square shaped." (See col. 2, lines 55-63 of Drake). This snug fit and square shape prevents rotation of the nut assembly while a bolt is being fastened thereto. Modifying a bolt to include Drake's locating surface, as suggested by the Examiner, would, however, produce an inoperable bolt when used with a square hole, because the snug fit and square shape would prevent the bolt from rotating and, thus, from tightening against the nut. While preventing rotation is desirable for Drake's nut assembly, it is particularly disadvantageous for a bolt if the bolt cannot rotate and tighten when inserted into a square hole.

Notwithstanding, the Examiner correctly points out that Drake identifies the square shape as only a preferred embodiment, which would suggest that other shapes are possible. However, Drake's locating surface has a different purpose than the Applicants' stepped portion: it prevents rotation of the nut assembly during tightening to a bolt, whereas a purpose of the shape of the Applicants' stepped portion is to permit rotation of the bolt. Although Drake may suggest shapes other than square, Drake would not suggest a shape that would render its use unsatisfactory for its intended purpose, which is, namely, to fit snugly in order to prevent rotation of the nut assembly. If Drake's locating surface were circular, as the bolt tightened within the nut assembly, the nut assembly would be able to rotate along with the bolt. The final alignment of the nut assembly, after rotation, could potentially interfere with the installation of rack-mounted equipment. By not teaching or suggesting a *circular* stepped portion, as set forth in the applicants' claim 2, Drake does not teach or suggest all claimed limitations of the applicants' invention, and, therefore, cannot render the applicants' invention obvious.

Independent claim 9 recites similar elements and limitations as claim 1 and the circular stepped portion of claim 2, and is therefore patentable over Drake for at least the reasons provided above in connection with claim 1 and claim 2, which reasons are reiterated herein with full force and effect. Moreover, claim 9 further recites a range of diameters of the circular portion not taught in Drake, which, in combination with its claimed elements and limitations, including the circular stepped portion, further distinguishes claim 9 from the APA and Drake.

CONCLUSION

In view of the arguments made herein, Applicants submit that the application is in condition for allowance.

Respectfully submitted,

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CLAIMS APPENDIX

1. A fastener, comprising:
 - a shank having a threaded portion;
 - a head portion having a top surface, a planar bottom surface, and a diameter; and
 - a stepped portion between the head portion and the threaded portion, the stepped portion having a diameter that is larger than the diameter of a round hole in a first type of mounting rail and smaller than a length of a side of a square hole in a second type of mounting rail, wherein when the fastener is inserted into one of the round holes of the first type of mounting rail a bottom surface of the stepped portion is urged against a front surface of the first type of mounting rail, and when the fastener is inserted into one of the square holes of the second type of mounting rail the stepped portion enters closely into the square hole and the planar bottom surface of the head portion is urged against a front surface of the second type of mounting rail.
2. A fastener, comprising:
 - a shank having a threaded portion;
 - a head portion having a top surface, a planar bottom surface, and a diameter; and
 - a stepped portion between the head portion and the threaded portion, the stepped portion being circular in shape and having a diameter that is larger than the diameter of a round hole in a first type of mounting rail and smaller than a length of a side of a square hole in a second type of mounting rail, wherein when the fastener is inserted into one of the round holes of the first type of mounting rail a bottom surface of the stepped portion is urged against a front surface of the first type of mounting rail, and when the fastener is inserted into one of the square holes of the second type of mounting rail the stepped portion enters closely into the square hole and the planar bottom surface of the head portion is urged against a front surface of the second type of mounting rail.

3-8 (Canceled)

9. A fastener, comprising:

a shank having a threaded portion;

a head portion having a diameter; and

a circular stepped portion between the head portion and the threaded portion, the stepped portion having a planar bottom surface perpendicular to the shank and a smaller diameter than the diameter of the head portion, the smaller diameter ranging between approximately 0.355 inches to approximately 0.365 inches so that the circular stepped portion is small enough to enter a square-hole of a Universal Mounting Rail and too large to enter a round hole of an Electronics Industry Association Standard mounting rail.

10-16 (Canceled)



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EVIDENCE APPENDIX

None.

RELATED PROCEEDINGS APPENDIX

None.